

Using and Generating Formulae - Test

1. Calculate the cost of 3 bottles of wine at £3.50 per bottle.
2. Write down an expression for 3 bottles of larger at a cost of c per bottle
3. Write down an expression for n bottles of beer at a cost of b per bottle
4. Evaluate each of the following formulae if $a = 3$, $b = 5$, $c = 6$ and $d = 12$

i) $t = a + b - d$	ii) $u = c - b$
iii) $v = d - a + b$	iv) $u = (c + d) \div a$
v) $w = ab$	vi) $x = bd/c$ (This means $b \times d \div c$)
vii) $y = ad - bc$ {Means $a \times d - b \times c$ }	viii) $k = abc - 4(d - c)$
ix) $t = 4a^2 + b^2 - d$	x) $p = ab/c + d/a$

5. The cost $\pounds C$ of hiring a car is £100 basic charge plus £50 per day.

a) What is the cost of hiring a car for 4 days? Write down a formula for hiring the car for t days.

b) Write down an expression for the cost of hiring the car for t days

c) Write down a formula for the cost C in terms of time t .

3. An approximate method for changing degrees centigrade into degrees Fahrenheit is to double and add 30. Write this as a formula in terms of C (centigrade) and F (Fahrenheit).

4. The velocity v of an object is given by its initial velocity u added to the product of its acceleration a and time t . Write this as a formula..

5. In a Joe's cafe cups of tea cost 75p and cups of coffee cost 86p. Write down a formula for the total cost c for a group of people that purchase t cups of tea and f cups of coffee at Joe's café.

7. The volume of a certain prism is given by $v = \frac{1}{2}wh(f + e)$. Calculate the volume when $f = 12$ cm, $e = 15$ cm, $h = 30$ cm and $w = 4$ cm.

8. The formula for changing miles per hour into km per hour is:

$$k = 1609344m/1000000$$

Where k is speed in km/h {km per hour} and m is the speed in mph {miles per hour}

c) Use the formula to change 100 mph into km/h

d) Using 1.5 instead of 1609344, write down a formula that gives and approximate answer.